Diagnostic Menu

EpiScope™

Skin Surface Microscope

A Guide to the Examination of Pigmented Skin Lesions

Welch Allyn®

Episcope™

Skin Surface Microscope

Operating Instructions

Thank you for purchasing the Welch Allyn EpiScope Skin Surface Microscope. The operating and maintenance instructions found in this manual should be followed to ensure many years of accurate and reliable service. Please read these instructions thoroughly before using your new EpiScope Skin Surface Microscope.

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Introduction to Skin Surface Microscopy

The use of in vivo skin surface microscopy as a means of more accurately assessing pigmented skin lesions has been advocated for over four decades.[1, 2,3] Recent studies have demonstrated the effectiveness of this method and new terms have been developed to describe the unique images of the skin which are accentuated by skin surface microscopy.[4,5] One of these new terms is Epiluminescence Microscopy (ELM) — the application of oil on the lesion while performing skin surface microscopy.

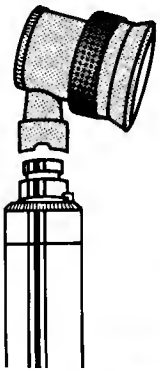
It has been reported that "in vivo epiluminescence microscopy provides for a more detailed inspection of the surface of pigmented skin lesions, and, by using the oil immersion technique, which renders the epidermis translucent, opens a new dimension of skin morphology by including the dermoepidermal junction into the macroscopic evaluation of a lesion."[6]

Improvement in diagnostic accuracy when performing in vivo epiluminescence microscopy in a study of 318 small pigmented skin lesions (that were diagnostically equivocal when examined with the naked eye) was as follows: "for small nodular melanomas from 50% to 70%; for superficial spreading melanoma in situ, from 46% to 80%; for invasive superficial spreading melanoma, from 64% to 90%; and for early lentigo maligna and lentigo maligna melanoma, from 67% to 88%. Conversely, the diagnosis of pigmented Spitz nevi improved from 46% to 93% and of pigmented basal cell carcinomas from 60% to 90%."[7]

Included in this manual are tables of criteria for pattern analysis of pigmented lesions using epiluminescence microscopy, established by members of the Department of Dermatology at the University of Vienna. This department, under the chairmanship of Klaus Wolff, MD, has studied well over 7,000 pigmented lesions. A selection of their photographs, magnified 10 times, (the same magnification as the Welch Allyn EpiScope Skin Surface Microscope) are included in this manual, accompanied by descriptive legends. Where noted, some of the photographs were taken at 16x to accentuate the benefits of ELM. All the photographs were taken with a WILD M650 (Wild Heerbrugg AG, Heerbrugg, Switzerland) binocular, stereo microscope, equipped with an automatic Nikon F801 camera, mounted on a side arm of the microscope and employing macro flash light illumination. All of the photographs included in this manual are less than 6mm in diameter, except where noted in the legends. The diagnosis of the lesions included in this manual were confirmed histologically.

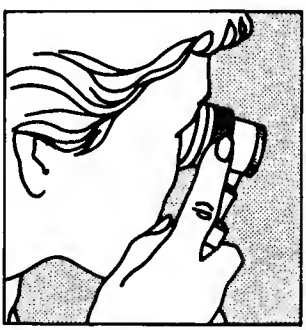
[1, 2, 3, 4, 5, 6, 7] Refer to page 24 for End Notes

Operating Instructions

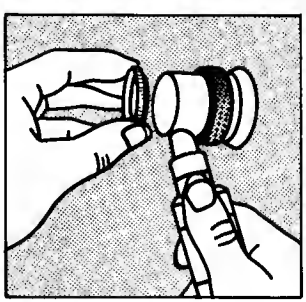


1. The EpiScope™ Skin Surface Microscope can be powered by any Welch Allyn 3.5v battery powered source. A list of these power sources is found on page 22 of this manual. Place the skin surface microscope on the top of the handle, push down and twist it clockwise until it locks in place.
2. Locate the lesion and examine for its surface structure. To reduce the glare from the stratum corneum, moisten the lesion with oil (mineral oil, petroleum jelly, etc.).
3. Turn the skin surface microscope on by adjusting the rheostat found on the power source, and gently rest it, contact plate first, over the lesion so that it is in the center of the contact plate.
4. With your index finger on the knurled focusing ring, adjust for optimal focus while your eye is resting on the eye guard. When wearing eye glasses, fold the rubber eye guard over the focusing sleeve to minimize focal distance.

   Please note: Focusing sleeve to work within operational focal range, no **greater** than 1/4" from the skin surface.



5. Observe the illuminated and magnified lesion, making note of its General Appearance, Surface, Pigment Pattern, Border and Depigmentation. (See tables, pages **3-6** of this manual, for specific lesion criteria.)
6. Remove the contact plate for examination of raised moles or lesions. Clean contact plate after each use according to Cleaning and Sterilization Instructions, page 21 of this manual.



Important: The physician should always take care to understand the clinical background of each patient. A diagnosis should not be made **solely** on the appearance of the skin lesion while magnified by the skin surface microscope, but instead must be based on a critical evaluation of all available criteria. This instrument is designed to provide the physician with a more accurate view of the lesion.

Care and Maintenance

A. Cleaning and Sterilization

Contact Plate

The contact plate can withstand cleaning or disinfection by any of the following:

Cidex, Cidex 7, Cidex Plus
Isopropyl alcohol (70% by volume)
Ammonia (10% by volume)
Bleach solution (10% by volume)
Betadine (10% by volume)
Wescodyne (10% by volume)

The contact plate can withstand sterilization by any of the following:

Steam Autoclave (270°F, 28 PSI, 6 min. cycle)*
Cidex, Cidex 7, Cidex Plus
Betadine (10% by volume)
Wescodyne (10% by volume)

*Clean contact plate with any recommended cleaning solution prior to using steam autoclave. Wrap contact plate in a sterilization wrap and wipe clean immediately upon removal from autoclave.

Note: Always follow manufacturers' instructions for proper exposure time.

Lens

Moisten cotton-tipped applicator with 70% ethyl alcohol or a solution of water and mild detergent. Clean debris from lens.

Note: DO NOT use abrasive materials to clean lens, Doing so can scratch and permanently damage optics system.

EpiScope Housing

External housing may be cleaned with a mild detergent and soft cloth

Warning: DO NOT immerse skin surface microscope housing as lens may fog.

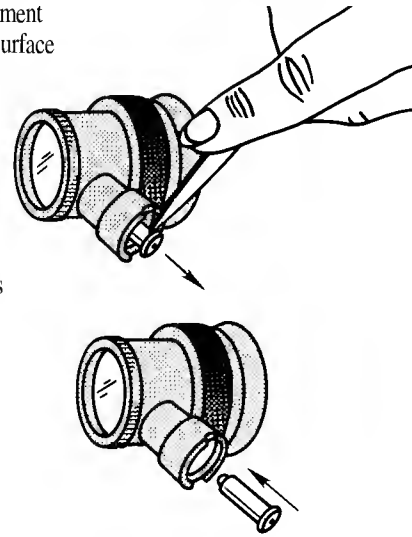
Storage

Store skin surface microscope in dry, clean area. No. 05232 Carrying Case accessory available, which holds rechargeable handle and extra contact plate.

B. Lamp Replacement

1. Remove skin surface microscope from power source.

CAUTION: Lamps may be hot. Lamp should be allowed to cool before removal. Halogen lamps are pressurized to provide maximum efficiency and illumination. Mistreatment may cause shattering. Protect lamp surface against abrasions and scratches. Use protective eyeglasses when handling. Dispose of lamp with care.



2. Lift out lamp with a nail file or similar tool inserted under base flange.
3. Taking care not to touch the glass surface, insert new Welch Allyn No. 03000 lamp and push firmly into place. If lamp surface is smudged, wipe clean with a soft cloth. Lamp base contact pin should be slightly below metal base. Replace skin surface microscope on power source.

Power Sources and Accessories

Power Sources

The EpiScope Skin Surface Microscope is compatible with any of these Welch Allyn 3.5v power sources:

71000 Rechargeable battery handle. This 3.5v rechargeable handle accepts all Welch Allyn 3.5v diagnostic instrument heads. A convenient, built-in charger keeps portable instruments ready when needed. Simply unscrew top cap and plug bottom section into any conventional 110v wall outlet. Fast charging in only 14 to 16 hours. Cannot overcharge.

71055 Rechargeable 3.5v handle and transformer, **export** (specify country and voltage). Conforms to IEC 601-1,220-250v, 50/60Hz

71670 Well recharging battery handle

- Fits most manufactures' charging wells.

*Accepts all Welch Allyn 3.5v diagnostic instrument heads.

71610 Desk Charger — This unit offers both the convenience of automatic recharging and portability.

Complete unit, includes charger No. 71110 and 2 each 3.5v rechargeable handles No. 71670, 1 10-130v, 50/60 HZ, UL listed, CSA certified.

*Constant automatic charging — cannot overcharge

- For convenient use with all Welch Allyn 3.5v instrument heads

*Compact charger base measures only 3-3/8" (86mm) x 7-1/4" (184mm)

- Optional wall bracket

71605 Same as No. 71610, but **export** (specify country and voltage). Conforms to IEC 601-1,220-250v, 50/60Hz

Accessories

47310 Reticle Contact Plate

47320 Plano Contact Plate

05232 Carrying Case

Warranty

The EpiScope Skin Surface Microscope is guaranteed by Welch Allyn against all manufacturing defects. Welch Allyn will repair or replace, free of charge, any parts of its own manufacture proven to be defective through causes other than misuse, neglect, damage in shipment, or normal wear. Skin surface microscope contact plates are guaranteed for one year from date of purchase.

Technical Specifications

Magnification: 10x

Focal Range (correction): ± 5D

Focal Length: 25mm

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